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ABSTRACT

This report presents the evaluation results of the Queens Tri-School Confederation magnet programs in New York City: programs designed to reduce minority-group isolation among high school students in three high schools and simultaneously improve the quality of their education through the sharing of resources and expertise. These programs, which were implemented in the 1991-92 school year, included new courses and particularly lab courses with a corresponding written curriculum that emphasized higher-level thinking skills. To reduce minority isolation, efforts were made to recruit students from among white populations. Evaluation data show difficulties in programming, the existence of small classrooms, and the reluctance of many students to attend an extended-day program. First-year program objectives to improve math and science test scores were achieved, but reading and writing objectives were not met. Data for the second program year reveal an overall increase in reading, as measured by the Degrees of Reading Power test, and in the passing rate on the writing section of the Regents Competency Test (RCT). However, passing rates fell on the reading, math, and science RCTs during the second program year. After the second year, aggregate attendance at all three schools had decreased. Recommendations conclude the report. (GLR)

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OREA Report

Queens Tri-School Confederation
1992-93 Evaluation Report

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EXECUTIVE SUMMARY

The Queens Tri-School Confederation, made up of Hillcrest, Jamaica, and Thomas A. Edison high schools, was funded in 1991 by a federal grant from the Magnet Schools Assistance Program. This two-year grant provided funds to the schools to develop or expand five magnet programs: a law program at Jamaica; pre-medical, and emergency medical technicians program at Hillcrest; and medical/ pharmaceutical, and emergency medical vehicle maintenance programs at Edison. Also, because the schools were within five blocks of one another, the Tri-School Confederation planned to share resources and expertise by offering courses at each school to students registered in any one of the three schools.

The Queens Tri-School Confederation magnet programs were implemented in the 1991-92 school year and included new courses, particularly lab courses with corresponding written curriculum, that emphasized higher-level thinking skills. The much anticipated new laboratories were not completed on time for the fall 1991 term. During the second year of the program (1992-93), Jamaica's reading/writing lab was fully equipped but because of the necessity for training teachers to use the equipment, students were not able to use it until February 1993. Hillcrest's DNA and Edison's pharmacology labs were still incomplete. Whenever possible, classes were held in chemistry or other laboratories. Both schools expected these labs to be fully functional by September 1993.

In an attempt to reduce minority group isolation, efforts were made to recruit students from among white populations. Despite these efforts, the evaluation objective of an eight percent decrease in minority enrollment over a two-year period was not met. In actuality, Hillcrest and Jamaica decreased their minority population by less than one percent. Edison had a two percent increase in minority enrollment.

Another indicator of reduction in minority group isolation showed more positive results. By the second program year, there was an increase of more than four percent in incoming white ninth grade students at Jamaica and Edison High Schools. Hillcrest High School had an increase of about one percent in non-minority ninth grade students. Also, Jamaica High School planned to institute its law educational-option program in September 1993, and began to recruit more students from outside its zone.

A major component of the Tri-School concept was an expansion of course offerings through shared resources. This was achieved by integrating courses. For example, Jamaica offered a medical ethics course, and Edison had a pharmaceutical course which was of interest to medical students at Hillcrest. Hillcrest offered a first responder course which was of interest to students in Edison's emergency vehicle maintenance program. While there was

an increase in the number of students enrolled in courses outside their home school during the second year (1992-93) of the program, problems remain. Because of difficulties in programming students, small classrooms, and the reluctance of many students to attend an extended day program, too few students were able to take courses of choice in other schools.

At the end of the first program year, students in all three schools improved their Regents Competency Test (R.C.T.) passing rates in math and science, and thus met the program's objective in this area. Students did not, however, do well in reading and writing. Data for the second program year revealed an overall increase in reading as measured by the Degrees of Reading Power (D.R.P.) test, and in the passing rate on the writing R.C.T. However, passing rates fell on the reading, math, and science R.C.T.s. during the second program year.

Attendance rates at both Edison and Hillcrest had improved during the first program year. However, by the end of 1992-93, the second program year, aggregate attendance at all three schools had decreased.

Student ratings of various program aspects of the 1992-93 school year varied somewhat by school. Students at Edison High School gave the highest ratings overall on the pretest. However, they lowered their ratings considerably on the posttest. It is quite likely that these ratings reflected raised expectations followed by disappointments. Generally, students from all three schools rated "student activities offered" and "opportunities to take courses in other schools" highest. "Opportunity for individual instruction" received low ratings in all three schools. These ratings were similar to those given the first year of the program.

During the 1991-92 school year, school safety had been a great concern to students, particularly at Hillcrest High School. While "school safety" again received low ratings during the 1992-93 program year, students were somewhat less concerned, and, in fact, bristled at the more stringent safety measures instituted at their high schools. Overall, the vast majority of students would recommend their schools to other students.

Based on the findings of this evaluation, OREA makes the following recommendations to program planners:

- continue and intensify efforts, using students and site visits to show off the new programs and facilities, to recruit more white students for all programs;

- focus more attention on students' reading and writing opportunities in order to improve these skills and to encourage higher levels of thinking and expression;

- consider intensifying efforts to give students more individual instruction time, perhaps through peer tutoring or mentoring programs;

- develop more ways students, especially in the lower grades, can take courses in their program of interest. This might include more interschool offerings and a transportation system between schools.

- appoint a program director to ensure the continuance and growth of the Tri-School concept of shared resources.

ACKNOWLEDGEMENTS

This report was prepared by the Office of Research, Evaluation, and Assessment's High School Evaluation Unit (OREA/H.S.E.U.) under the direction of Dr. Lori Mei. Special thanks to Susan Hannah for coordinating the overall evaluation, and to Barbara Dworkowitz for interpreting the data and writing the final report.

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I. INTRODUCTION

PROGRAM BACKGROUND AND PURPOSE

In 1990, ethnic data for the New York City's public high schools revealed that, on average, there was fewer than one white student (19 percent) for every five minority students (81 percent) enrolled in the high schools. In some schools, such as Hillcrest and Jamaica High Schools in Queens, the ratio was closer to one white student for every ten or 15 minority students. These numbers are even more striking considering that Hillcrest and Jamaica are zoned schools located in a neighborhood where 60 percent of the residents are white. In fact, more than two-thirds of the white high school students in New York City have opted out of the public school system to attend private, parochial, or specialized schools. And while the total number of white students enrolled in the high schools has decreased, the total number of black, Hispanic, and Asian students has increased.

Educational option, or "magnet" programs, have helped to reverse this trend toward "white flight" from New York City's public schools. These theme-oriented programs increase the motivation and achievement of students by relating school curriculum and activities to student interests and career goals. Better student achievement in turn improves the reputation of these schools. Consequently, more white students in the public school system stay for high school-level education, while some white students who have left the system are being drawn back.

The Magnet Schools Assistance Program (M.S.A.P.), a federal grant program authorized by Title III of the Elementary and Secondary Education Act of 1965, provides funds for instruction and educational programs in schools with sizeable minority populations. The goals of the program are to improve students' academic knowledge and marketable vocational skills, entice non-minorities to voluntarily return to the public schools, and achieve racial balance within the schools.

In 1991, the program awarded a $2.2 million federal Magnet School grant (renewable for a second year) to three Queens high schools--Hillcrest, Jamaica, and Thomas A. Edison--which had united to form a cooperative organization called the Queens Tri-School Confederation. Cooperation among schools was envisioned as a way to expand and improve the services and instruction in all three schools. The geographic arrangement of the schools--five blocks apart from one another--enabled the schools to share resources and students and to develop or expand five magnet programs: a law program at Jamaica, pre-medical and emergency technician programs at Hillcrest, and pharmaceutical and emergency vehicle maintenance programs at Edison.

PROGRAM OBJECTIVES

Program planners formulated the following evaluation objectives for the two-year program:

- establish the Queens Tri-School Confederation consisting of the Hillcrest High School Pre-Medical and Emergency Medical Technology Programs, the Jamaica High School Law Academy, and the Thomas A. Edison Pharmacy and Emergency Vehicle Maintenance Programs;

- reduce minority group isolation in the Tri-School Confederation high schools by five percent by June 1992 as compared to June 1991 (baseline data), and by an additional three percent in June 1993 (eight percent total for the two-year grant period);

- provide special curriculum, courses, teaching methodology, and counseling strategies to support reduction of minority group isolation in buildings and in classrooms of the new magnet high schools;

- offer high quality, unique courses of instruction in a Law Magnet Program at Jamaica High School, Pre-Medical and Emergency Medical Technology Magnet Programs at Hillcrest High School, and Pharmaceutical and Emergency Medical Vehicle Maintenance Magnet Program at Thomas A. Edison High School;

- demonstrate at the end of each grant year (June 1992 and June 1993) an improvement in student academic skills as measured by a higher passing rate on New York State Regents exams and Regents Competency Tests as compared with baseline data for June 1991;

- provide opportunities for students from each of the special programs to interact with each other through an expansion of programmatic offerings and shared programs;

- improve student motivation to attend school as measured by an average daily attendance higher than the previous year at the end of each year (June 1992 and June 1993);

- increase student, teacher, and parent satisfaction with the high school program as measured by a questionnaire to be administered at the beginning and end of each school year, 1991-92 and 1992-93;*

- improve higher-level thinking skills on the part of students in the program as measured by pre and post-test evaluations in September 1991/June 1992 and September 1992/June 1993;**

- increase by three percent each year the number of students entering post-high school programs related to magnet program thematic areas.***

EVALUATION METHODOLOGY

The Office of Research, Evaluation, and Assessment (OREA) conducted the evaluation of the magnet program. Evaluators obtained ethnicity, attendance, and test data from central files and compared them for the baseline (1990-91) and program years (1991-92 and 1992-93.) Test scores included in the analyses were the Degrees of Reading Power Test (D.R.P.) for ninth and tenth graders, and Regents Competency Tests (R.C.T.s) in reading and writing for eleventh and twelfth graders, and math and science for ninth through twelfth graders.

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*Evaluations of parents' and teachers' satisfication with the high school program were eliminated for budgetary reasons.

**A direct assessment of students' higher-level thinking skills was not carried out for budgetary reasons, and because adequate instruments to test these learning and thinking skills have not been developed beyond such "indicators" as intelligence tests and Scholastic Achievement Test (SAT) scores. It is expected, however, that demonstration of these skills due to changes in instruction will be reflected in improved reading comprehension, general grade averages, essay writing, and laboratory performance.

***Post-high school program data are not presented in this report because data for students entering high school in September 1991 and September 1992 will be unavailable until 1995 and 1996. The project director and the schools' principals and guidance supervisors have begun developing a system to longitudinally track these students.

Evaluators also interviewed the project director and the three high school principals to obtain information on the programmatic features and offerings in each school. These data were augmented by responses to a questionnaire given to a modified random sampling of five to ten percent of students in grades nine through twelve concerning their usage of various program features. This same questionnaire also served as the instrument to determine the level of students' satisfaction with their high schools and high school programs.

SCOPE OF THIS REPORT

This evaluation focuses on the second year (1992-93) of the Queens Tri-School Confederation program*. Chapter II of this report updates the specific magnet programs at Jamaica, Hillcrest, and Edison high schools. Chapter III outlines student attitudes on individual aspects of the program. Chapter IV compares student data on ethnicity, test scores, and attendance between 1990-91 (baseline), 1991-92 and 1992-93 (program years) to determine program impact in these areas. Finally, Chapter V presents conclusions and recommendations.

*The 1991-92 evaluation report on the Queens Tri-School Confederation program is available from the Office of Research, Evaluation, and Assessment.

II. MAGNET PROGRAMS

During 1991-92, the first year of the program, Tri-School Confederation initiated magnet programs in all three schools for students in grades nine through twelve*. These programs were expanded during 1992-93, the second program year. In addition, schools continued to smooth out problems encountered during the implementation of new programs and procedures.

JAMAICA HIGH SCHOOL

Jamaica High School was a member of the "law cluster," a group of high schools with law-related programs that met regularly to share resources and educational materials. However, by expanding the existing program to offer a unique magnet program of law and other justice-related fields, Jamaica hoped to attract a wider variety of students. As an educational-option program, ninth and tenth grade students throughout the city could apply to the law program directly**. In September 1992 the law program was approved as an educational-option, strengthening the school's efforts to attract more white students

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*For a full description of Tri-School Confederation magnet programs, see the "1991-92 Queens Tri-School Confederation" evaluation report.

**Students must apply for acceptance into an educational-options school or program. Those students who score within the top two percent on a standardized reading test taken the term prior to applying are automatically accepted into the educational-option program if it is listed as their first choice. Each entering class is comprised of 16 percent of students reading above grade level, 68 percent reading within an average range, and 16 percent reading below average. One half of the students applying are selected at random by computer, while the other half are selected by the school.

and reduce minority group isolation. However, the law educational-option program was not scheduled to begin until September 1993.

With the assistance of the magnet school grant, courses and curricula stressing higher level cognitive skills were added. These included courses in civil law, criminal law, street law, legal research, and forensic science. Law courses were introduced to ninth and tenth graders during the 1992-93 school year. Participating ninth graders took "Global Studies Law," and tenth graders were offered "English and Law."

In the 1992-93 program year, students participated in a one-year forensic science course in their new laboratory* equipped for fingerprinting, blood and human tissue comparisons, and chemical analysis of solutions. Students were taught the scientific principles of chemistry in the lab, and the importance of laboratory discoveries as used in the courtroom.

Through the new computerized library, students were expected to have access to an extensive law reference book collection. However, the library had some problems with installing sufficient power for the computers. In addition, more up-to-date materials, as well as courtroom law materials are still being sought.

Expository and technical writing and composition were emphasized in the curriculum. The focus was on students gaining marketable skills for entry-level positions in law-related

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*The forensic science lab at Jamaica High School was not complete during the first program year.

fields. A reading and writing laboratory with computers was planned for student use during the first year of the program. However, equipment was not received in time. The school finally received the needed equipment in June 1992. Appropriate software programs were installed at the start of the 1992-93 school year. However, staff had to be trained in the use of the computers and students could not begin to use the lab until February 1993. Students learned basic keyboarding and word-processing. Jamaica High School plans to add "Desktop Publishing" to their 1993-94 curriculum.

HILLCREST HIGH SCHOOL

Students throughout Queens compete for admission to Hillcrest High School's educational option pre-medicine program. It is but one program among many health career programs offered at Hillcrest. Others include practical nursing, emergency medical techniques and first responder, and medical and dental office assisting.

The main addition to the pre-medicine program was the introduction of a DNA* laboratory with machines for DNA analysis. The DNA lab was incomplete as of November 1992 but was expected to be fully operational for the spring 1993 term. However, problems with plumbing at Hillcrest further delayed the opening of the lab, and it is not expected to be in use until September 1993. Nonetheless, the curriculum had been developed

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*DNA is a nucleic acid that carries the genetic information in the cell.

and appropriate textbooks were available so students were able to participate in research teams, or as individual investigators.

THOMAS A. EDISON HIGH SCHOOL

Thomas A. Edison, a vocational-technical high school, is open to residents throughout New York City. As part of the Tri-School Confederation program, existing programs at Edison in medical/pharmaceutical chemistry and the technology of emergency vehicle maintenance were expanded and integrated with Hillcrest's pre-medicine and E.M.T. programs.

As with the other magnet programs, a key feature of Edison's pharmaceutical and emergency medical maintenance programs was the creation of "state of the art" labs. Extensive use of labs is expected to encourage a process-oriented, "learn by doing" approach emphasizing higher-level thinking skills, and scientific reasoning over rote learning.

As of fall 1992, the pharmacology lab was almost completed, with plumbing and gas lines already installed. The curriculum had been written and a certified pharmacist was on the staff to teach the courses. However, due to further delays by the contractor, the lab was not expected to open until September 1993.

INTERSCHOOL ACTIVITIES

Courses

Schools in the Tri-School Confederation formed an integrated network to promote cooperation, not competition. Students were able to share courses and instructors, thus expanding their course options. For example, Jamaica offered a medical ethics

course, and Edison had a pharmaceutical course to interest medical students at Hillcrest. Hillcrest offered a first responder course which was of interest to students in Edison's emergency vehicle maintenance program. The benefits were twofold: students could expand their programs by taking courses on other Tri-School campuses, and more courses could be offered to a larger pool of interested students.

In general, the schools saw an increase in participation by students outside their home school during the second year of the program. Twelve Hillcrest students participated in the law magnet program at Jamaica, while another 12 took auto body or an electrical installation magnet course at Edison in 1992-93. It should be noted that only two Hillcrest students participated in the law magnet program at Jamaica during the 1991-92 school year. Also, 39 students from Edison took courses at Hillcrest in 1992-93 while another 28 Edison students went to Jamaica High School for different courses.

Although the logistics for scheduling students for interschool classes during the normal school day was complicated, staff continued to work on the program. However, staff agreed that in order for the program to grow and succeed, a full-time project director was needed to help facilitate programming and inter-school activities.

Shared Student Activities

The first steps towards shared activities were taken by the student governments during the first program year. The student representatives met jointly to discuss possibilities. As a

result of these initial planning sessions, extracurricular clubs and sports facilities at all three schools were opened to all Tri-School members. These activities continued to be popular during the 1992-93 school year. Students were informed of Tri-School activities by their principal at school assemblies, or by flyers describing the program.

Staff Development

Besides in-house staff development on new courses introduced at individual schools, Tri-School Confederation put together a number of joint training sessions for faculty. During the 1992-93 school year, this included library computer system staff development taught by representatives of the software manufacturer, Columbia CTB Division of MacGraw Hill. Additional staff development was provided by the librarian at Hillcrest High School.

Also, bi-monthly brain-storming sessions with the school principals were attended by up to 50 staff members from all three schools. Unfortunately, these sessions ended when staff learned that the two-year Tri-School grant was not being renewed by the Magnet Schools Assistance Program.

III. STUDENT ATTITUDINAL SURVEY

At the end of the fall term 1992, OREA administered a survey to a modified* random sample of students in the ninth through twelfth grades** at Jamaica, Hillcrest, and Edison high schools. The survey was designed to measure the students' attitudes towards their respective schools and programs. These students were surveyed again at the end of the spring 1993 term to assess whether there had been any changes in their attitudes after participation in Tri-School programs. After matching pre- and post-survey samples, a total of 175 students from Jamaica, 205 students from Hillcrest, and 142 students from Edison were included in the analyses.

ENROLLMENT

Most often, sample students from Hillcrest, Edison and Jamaica indicated that they wanted to enroll in their respective schools because they were interested in one or more of the educational programs. Many Hillcrest students expressed interest in the Medical Science Program (30 percent) or the Health Careers

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*To minimize disruption in the school created by administering the survey, OREA requested that principals survey entire classes of students rather than a true random selection. To ensure a cross-representation of students, including those in the magnet programs, Jamaica High School surveyed its global studies/history classes, Hillcrest surveyed English and history classes, while Edison included English, art, math, electronics, and medical pharmaceutical classes.

**Students in all grades were surveyed because ninth and tenth graders are somewhat restricted by their required courses. Eleventh and twelfth graders have more flexibility and, therefore, can more readily take advantage of the Tri-School features.

Program (31 percent), while another 19 percent were interested in Theatre Arts or the Arts Career Institute. Edison students indicated interest in Engineering (43 percent), Industrial/ Residential Electrician Program (20 percent), Technical Drawing and Commercial Art (18 percent), and the Medical Pharmaceutical Chemistry Program (16 percent.) Some Edison students were also interested in Cabinet Making (13 percent), Auto Body Repair (11 percent), and Business Equipment/Computer Repair (10 percent). A total of 53 percent of sample students from Jamaica indicated interest in the Computer Science Institute, Law Program, and Finance Institute, while another 27 percent were interested in the College Discovery and Development Program. In addition, 18 percent each expressed interest in the Gateway to Higher Education Program and the Humanities Program at Jamaica High School.

About 30 percent of sample students from Jamaica and Hillcrest thought it important that their school be close to home or bus or subway lines, while only 18 percent of Edison students based their choice on that factor. Also, while 26 percent of sample students at Jamaica High School indicated that they wanted "to be with friends or siblings," only 15 percent of Hillcrest students and 11 percent of Edison students indicated that was an important factor in selecting their school. Less than five percent of all sample students were attracted to the program because of the opportunity to take classes at the other two schools.

As indicated in Table 1, 46 percent of the Hillcrest sample were enrolled in some aspect of the medical program. At Edison (Table 2), the largest percentage of respondents were engineering students (35 percent). However, as shown in Table 3, law program students comprised only about 11 percent of the sample at Jamaica. Jamaica's other educational option programs such as computer science and finance had a larger percentage of sample students (17 and 15 percent, respectively) enrolled.

When asked who helped them decide on the programs they enrolled in, sample students from all three schools indicated they most often made the decision on their own. Recommendations from family members also had a big influence on the students' decisions. Students at Jamaica and Hillcrest were helped by guidance counselors and teachers as well. However, Edison students indicated that counselors and teachers had little impact on their decision. Flyers and other Tri-School publicity had the least influence on the students. This is in sharp contrast to the 1991-92 survey where approximately one-third of all sample students indicated that they were influenced by the publicity of the Tri-School programs.

INTERSCHOOL ACTIVITIES

As in the previous program year, the number of students taking courses in other schools during the 1992-93 school year was relatively small. Less than four percent of sample students took advantage of the cross-over program in 1992-93. However, according to data supplied by the schools, there was an increase

Table 1

Summary of Programs in Which Sample Hillcrest Students Were Enrolled in 1992-93

Program	N	%[a]
Health Careers	49	21
Medical Science/ Pre-Medicine	33	16
Liberal Arts	33	16
Theatre Arts	21	10
Business/Accounting	17	9
Medical Assistant	16	8
Art Careers	16	8
Electronics	9	5
Emergency Medical Technician	1	1
Other	14	7

[a]Percentages do not equal 100 due to rounding.

- Forty-six percent of the Hillcrest respondents were enrolled in the medical or health-careers program.
- Sixteen percent of the sample were enrolled in liberal arts courses.

Table 2

Summary of Programs in Which Sample Edison Students Were Enrolled in 1992-93

Program	N	%[a]
Engineering	49	35
Electrical/Plumbing	26	19
Carpentry	19	14
Art/Technical Drawing	14	10
Pharmaceutical	12	9
Business	12	9
Auto body Repair/ Service	6	4
Other	2	2

[a]Percentages do not equal 100 due to rounding.

- Thirty-five percent of Edison's students who completed the attitudinal survey were enrolled in engineering.
- Only four percent of the sample were auto body repair students.

Table 3

Summary of Programs in Which Sample Jamaica Students Were Enrolled in 1992-93

Program	N	%[a]
Computer Science	29	17
College Discovery and Development	28	16
Regular School Program	27	16
Finance	25	15
Law	18	11
Humanities	15	9
Gateway to Higher Education	15	9
Business	7	4
Special Education: Computers in Business	1	1
Other	6	4

[a]Percentages do not equal 100 due to rounding.

- The largest portion of the sample (17 percent) were computer science majors. Fifteen percent were in the Finance program.
- Only 11 percent of the sample were enrolled in the law program. Jamaica's educational-option law program is scheduled to start in September 1993.

in the overall number of students taking courses at other schools during the second year of the program. It is expected that, as the program gains in popularity, more and more students will take courses offered by the other schools in the confederation. In fact, the "opportunity to take courses in other schools, in other fields of interests" was among the highest rated components on the student attitudinal survey.

Survey responses showed that approximately half the students at Jamaica and Hillcrest, and one-third of the students from Edison were involved in extracurricular activities in the fall term. The majority of students participated at their home schools. Students from all three schools were consistent in their choice of activities. The most popular activities involved sports, music/drama production, clubs, peer tutoring or mentoring, and volunteer work in hospitals, churches, and senior citizen or daycare centers. Students showed little interest in math or debating teams, or in recruitment and articulation activities with middle school students. In addition, only a handful or students from Hillcrest and Jamaica high schools participated in internship programs. Overall participation in extracurricular activities during the spring term at Jamaica High School increased, but decreased somewhat at Hillcrest and Edison.

P.M. school was attended by a higher percentage of sample students during the spring term than the fall term. At Jamaica, participation increased from 10 to 16 percent, at Hillcrest from eight to 10 percent, and at Edison from three to six percent.

This increase makes sense in light of the fact that most students attended a P.M. school to earn credits towards graduation, to make up course work, or to take tutorials. Only one sample student attended P.M. school for access to lab courses, and a few went to learn word processing.

WRITING LABS

A major focus of the magnet programs was to improve student writing. Survey responses indicated that close to one third of sample students from Jamaica High School attended a writing lab during the year, mainly for their English course but also for computer and typing courses. Approximately 20 percent of sample Edison students used the writing lab, primarily for English but also for a computer course. While close to 17 percent of Hillcrest respondents also used a writing lab, they tended to use it more for a computer or typing course than for English. These percentages indicate that more students made use of the writing labs during the second year of the program (1992-93) than during the program's first year. This was particularly true at Hillcrest where only five percent of sample students used the writing lab during the first program year.

CAREER INTERESTS

Close to 90 percent of sample students from Hillcrest and Jamaica, and 75 percent of Edison students, indicated they planned to attend college after completing high school. The vast majority of these students expected to attend a four-year college. Approximately ten percent of Edison respondents hoped

to find full-time employment after high school, but only four percent of Hillcrest students and two percent of Jamaica students considered that an option.

Students also indicated their career interests. Medicine or some other health-related field, business management and/or accounting, law, and art-related professions were high on the list among students attending Hillcrest and Jamaica. Edison students expressed more interest in engineering, computer programming and repair, and residential/industrial services.

When asked how well their program was preparing them for their career plans, about 82 percent of the students from Edison and 74 percent from Hillcrest marked "considerably" or "fairly well." However, only 59 percent of Jamaica students agreed with this assessment. It appears that many of Jamaica's students, and to a lesser extent Hillcrest's students, were frustrated at not being able to take courses in their field of interest. Often this was because these courses were either not open to freshmen or already filled to capacity. Students also felt they could benefit from more program options and courses that included hands-on lab work.

RATING SCHOOL PROGRAMS

Students were asked to indicate their attitude toward aspects of their respective programs using a five-point rating scale of "excellent," "very good," "good," "fair," and "poor." Table 4 lists these areas and gives a summary of the average

Table 4

Tri-School Confederation 1992-93
Comparison of Average Survey Ratings on Student Attitudes[a]

Area	Edison				Hillcrest				Jamaica			
	N	Pretest	Posttest	Change	N	Pretest	Posttest	Change	N	Pretest	Posttest	Change
Student activities offered	133	3.47	2.97	-.50	197	3.61	3.41	-.20	167	3.63	3.49	-.14
Overall course offerings	132	3.41	3.28	-.13	194	3.27	3.31	+.04	168	2.96	3.07	+.11
Opportunity to take course in other schools, in other fields of interest	133	3.30	3.11	-.19	195	3.35	3.32	-.03	167	3.11	3.23	+.12
Overall school program	133	3.24	3.13	-.11	191	3.30	3.17	-.13	161	3.26	3.10	-.16
Opportunity to talk with teachers about programs	133	3.03	2.89	-.14	196	2.68	2.80	+.12	169	2.69	2.81	+.12
Opportunity to talk with guidance counselor about programs	134	3.16	2.94	-.22	199	2.70	2.75	+.05	169	2.83	3.00	+.12
Opportunity to talk with teachers about academic problems	134	2.90	2.86	-.04	195	2.77	2.63	-.14	169	3.01	2.78	-.23
Opportunity to talk with guidance counselors about academic problems	132	3.05	2.89	-.16	197	2.55	2.54	-.01	168	2.76	2.76	0
Opportunity to learn about different career areas	130	3.39	3.08	-.31	193	2.94	2.91	-.03	167	2.72	2.64	-.08
Opportunity to improve writing	131	2.98	2.82	-.16	191	2.94	2.76	-.18	166	3.08	2.98	-.10
Overall classroom instruction	134	3.01	2.99	-.02	195	2.79	2.84	+.05	168	2.96	2.89	-.07
Overall guidance services	131	3.12	3.01	-.11	198	2.61	2.62	+.01	166	2.98	2.91	-.06

(Continued)

[a]Students used a five-point rating scale to indicate satisfaction with aspects of the program, with five being the highest rating.

Table 4

Tri-School Confederation 1992-93
Comparison of Average Survey Ratings on Student Attitudes[a]
(Continued)

Area	Edison				Hillcrest				Jamaica			
	N	Pretest	Posttest	Change	N	Pretest	Posttest	Change	N	Pretest	Posttest	Change
Access to labs	129	2.81	2.33	-.48	188	2.63	2.54	-.09	159	2.83	2.66	-.17
Lab equipment/software	130	2.83	2.45	-.38	179	2.75	2.74	-.01	160	2.74	2.58	-.16
Library facilities	133	3.08	2.97	-.11	188	3.32	3.39	+.07	156	2.75	2.37	-.38
Community service opportunities	129	2.83	2.37	-.46	179	2.91	2.72	-.19	162	2.65	2.51	-.14
Opportunities to collaborate with external resources	131	2.95	2.70	-.25	183	2.95	2.68	-.27	160	2.88	2.83	-.05
School atmosphere	132	2.95	2.73	-.22	191	2.81	2.71	-.10	167	3.02	2.82	-.20
School safety	130	2.85	2.58	-.27	197	2.80	2.97	+.17	163	2.92	2.88	-.04
Opportunity for individual instruction	131	2.74	2.41	-.33	192	2.59	2.50	-.09	164	2.60	2.49	-.11
Extended day school program	128	2.61	2.35	-.26	180	2.95	2.88	-.07	159	3.01	2.91	-.10

[a]Students used a five-point rating scale to indicate satisfaction with aspects of the program, with five being the highest rating.

- Overall, students at Edison gave the highest ratings on the pretest. However, Edison students lowered these ratings considerably on the posttest. Hillcrest students tended to give lower ratings but raised their ratings in approximately 1/3 of all areas on posttest.
- "Student activities offered" received the highest rating from students in all three schools.
- "Opportunity for individual instruction" received the lowest ratings overall.

score for student ratings in each area, plus the change in rating from pretest to posttest.

Edison's students tended to give the highest ratings across variables on the pretest, but lowered all their ratings on the posttest. Students at Hillcrest tended to give lower ratings but raised their ratings in one-third of the categories on the posttest.

Students from all three schools gave high ratings on the pretest to "student activities offered," and generally indicated satisfaction with their "overall school program." Among the lowest rated categories were "extended day school program," "opportunity for individual instruction," and "access to labs." Even though "school safety" still received low ratings, students seemed less concerned in 1992-93 than they did the previous school year. In fact, students bristled at the more stringent security measures implemented at their schools.

The areas which showed the most improvement at Hillcrest and Jamaica, as indicated by posttest ratings, were "opportunity to talk with teachers about programs" and "opportunity to talk to guidance counselors about programs." Jamaica students also increased their mean rating for the "opportunity to take courses in other schools."

Categories that received considerably lower posttest ratings at Edison included "student activities offered," "community service opportunities," and "lab equipment/software." The biggest drop in ratings at Jamaica was for "library facilities,"

while Hillcrest students showed disappointment in "opportunities to collaborate with external resources."

Aspects of School Students Liked Most

Students were asked to describe what they liked most about their school experience. Although there was some variation between semesters in the number of students who responded to the question, the overall pattern remained constant. In addition, the pattern of answers was very similar to that of students in the previous year's program. The three most frequent responses from students in all three schools were a specific program or course, their classmates and friends, and the satisfaction they got from learning and doing well. A number of students also felt that their teachers contributed positively to the school experience. Edison students also liked the hands-on experience they received in labs and thought they were getting good trade preparation. Hillcrest students were happy with their extracurricular activities.

Aspects of School Students Disliked

Students were also asked to describe what they most disliked about school. Students from all three schools complained about strict regulations, and security scanners. At the same time, some students were particularly disturbed by fights and thefts in their schools. Students at all three schools found fault with some of the teachers.

Changes Students Would Like to See

Students at all three schools suggested that some teachers should adopt a better attitude, and become more involved with students. Sample students also wanted more extracurricular activities, better course advisement, and improved safety. Students from all three schools wanted better facilities including cleaner bathrooms and more secure lockers. Nonetheless, an average of 84 percent of sample students from Jamaica and Edison, and 78 percent of students from Hillcrest said they would recommend their school to other students.

MINORITY GROUP ISOLATION

With effective promotion of their programs, Tri-School Confederation planners had hoped that minority group isolation could be reduced at each of the three Tri-School members by five percent the first year and an additional three percent the second year. As shown in Table 5*, by the end of the second program year (1992-93) this objective was not met. In fact, the percentage of minority students actually increased about two percent at Edison, and declined less than one percent at Hillcrest and Jamaica High Schools when compared to the 1990-91 baseline year.

If ethnic trends of entering ninth graders are examined, however, a different pattern emerges. As shown in Table 6, both Edison High School and Jamaica High School had more than a four percent increase in the percentage of white students enrolled in the ninth grade in October 1992, as compared to the 1990-91 baseline year. In October 1990, the percentage of white ninth graders enrolled in Edison had decreased by 4.9 percent from October 1989. However, as shown in Table 6, in 1992 the number had increased by 4.3 percent. After a decline in white enrollment over three consecutive years, in 1992 Jamaica High School had a 4.8 percent increase in incoming non-minority

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*Ethnic data were obtained from the New York City Public Schools' "Pupil Ethnic Composition Report" distributed in October of each year.

Table 5

Summary of Baseline, First-Year and Second-Year Minority Enrollment Statistics by School[a]

School	Minority Enrollment[b] Baseline 1990-91 N	%	1st Year 1991-92 N	%	2nd Year 1992-93 N	%	Overall Change %
Edison	1,625	80.6	1,718	83.2	1,835	82.8	+2.2
Hillcrest	2,929	89.2	2,927	88.3	2,896	89.0	-0.2
Jamaica	2,397	94.3	2,441	95.4	2,387	93.7	-0.6

[a]Ethnic data were obtained from the New York City Public Schools, "Public Ethnic Composition Report" distributed in October of each year.

[b]The evaluation objective called for a reduction in minority group isolation (as measured by a reduction in the percentage of minority group students enrolled in the schools) of five percent in the first year, and an additional three percent in the second year.

- During the second program year, minority enrollment declined somewhat when compared to the baseline year at Hillcrest and Jamaica High Schools. However, none of the schools achieved the stated evaluation objective.

Table 6

Summary of Baseline, First-Year and Second-Year Enrollment of White Ninth Graders by School[a]

	Percentage of Ninth Grade White Enrollment[b]						
	1990-91 Baseline		1991-92 First Year		1992-93 Second Year		Overall Change
	N	%	N	%	N	%	%
Edison	70	14.3	88	17.3	91	18.6	+4.3
Hillcrest	44	6.7	82	10.5	56	7.8	+1.1
Jamaica	29	5.1	23	4.3	57	9.9	+4.8

[a]Ethnic data were obtained from the New York City Public Schools, "Public Ethnic Composition Report" distributed in October of each year.

[b]The evaluation objective called for a reduction in minority group isolation (as measured by a reduction in the percentage of minority group students enrolled in the schools) of five percent in the first year, and an additional three percent in the second year.

- While none of the schools significantly decreased their minority enrollment, all three schools showed an increase in enrollment of white ninth graders.

students when compared to the baseline year. Hillcrest's population of white ninth graders declined by 9.6 percent between 1989 and 1990, but increased by 3.8 percent the following year. While 1992 showed a 2.7 decline in non-minority ninth graders, Hillcrest still showed a 1.1 increase in white students when compared to the baseline year.

STUDENT ACADEMIC ACHIEVEMENT

Program planners stipulated that students in each of the three high schools would show an improvement in academic skills, as measured by a higher percentage of passing rates on New York State Regents Exams* and Regents Competency Tests at the close of the 1991-92 and 1992-93 school years, as compared with baseline data for 1990-1991.

As shown in Table 7, students in Hillcrest met the objectives in math and science at the end of the first program year, with R.C.T. passing rates higher in 1991-92 than in 1990-91. During the second program year (1992-93), Hillcrest students met the program objective in writing, and showed improvement in reading as measured by the D.R.P. test. However, student scores decreased on the reading, math, and science R.C.T.s. Thus, program objectives were not met in these areas.

Tables 8 shows that Edison High School students improved their passing rates on the math, science and reading R.C.T.s., but did not meet the writing objective in the first program year.

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*Regent scores were not available because of the problems in extracting these data from student records.

Table 7

Summary of Baseline, First-Year and Second Year Achievement Outcomes for Hillcrest High School

	Baseline 1990-91		First Year 1991-92		Second Year 1992-93	
Measures	N	% Passed[a]	N	% Passed[a]	N	% Passed[a]
R.C.T.						
Reading	644	91.5	620	91.5	623	89.8
Writing	641	89.2	508	84.8	636	86.9
Math	946	52.5	985	57.8	929	49.7
Science	746	65.4	736	66.0	730	51.9

		Mean			Mean			Mean	
D.R.P.[b] Test	Tested	Score	S.D.	Tested	Score	S.D.	Tested	Score	S.D.
Reading	1,078	56.6	17.6	1,127	52.2	16.5	1,138	59.7	14.4

[a]Percent who passed of those who took the Regents Competency Test.

[b]Degrees of Reading Power test scores are presented in N.C.E. units. N.C.E.s are normal curve equivalent scores. These scores are similar to percentile ranks, but are based on an equal-interval scale ranging from 1 to 99, with a mean of 50 and a standard deviation of 21. A gain in N.C.E. score from year to year indicates that a student's performance is better than what would be expected by normal growth and chance.

- During the first program year, Hillcrest High School students met the program objective for passing rates in math and science. Their reading and writing skills, however, showed a decrease in proficiency as compared to the previous year.

- During the second program year, Hillcrest students met the program objective in writing, and showed improvement in reading as measured on the D.R.P. test. However, student scores decreased on all other R.C.T.s.

Table 8

Summary of Baseline, First-Year and Second-Year Achievement Outcomes for Edison High School

	Baseline 1990-91		First Year 1991-92		Second Year 1992-93	
Measures	N	% Passed[a]	N	% Passed[a]	N	% Passed[a]
R.C.T.						
Reading	379	94.7	452	97.6	498	96.7
Writing	408	90.0	440	86.8	521	95.2
Math	689	73.1	635	79.8	583	76.3
Science	636	73.6	624	76.6	598	68.5

	Mean			Mean			Mean		
D.R.P.[b] Test	Tested	Score	S.D.	Tested	Score	S.D.	Tested	Score	S.D.
Reading	973	57.7	15.0	1,029	55.5	13.9	1024	63.16	11.0

[a]Percent who passed of those who took the Regents Competency Test.

[b]Degrees of Reading Power test scores are presented in N.C.E. units. N.C.E.s are normal curve equivalent scores. These scores are similar to percentile ranks, but are based on an equal-interval scale ranging from 1 to 99, with a mean of 50 and a standard deviation of 21. A gain in N.C.E. score from year to year indicates that a student's performance is better than what would be expected by normal growth and chance.

- During the first year of the program, Edison High School students improved their passing rates in math and science, and thus met the program objective in those two subjects. Their reading skills showed an improvement as measured by the Regents Competency Test, but not when measured by the D.R.P. test. They did not meet the objective in writing.

- During the second year of the program, Edison students improved their passing rate in writing, and showed improvement in reading as measured by the D.R.P. test. However, passing rates of Edison students decreased on all other R.C.T.s.

During the second program year, however, Edison students improved their passing rate in writing, and showed improvement in reading as measured by the D.R.P. test. The 1992-93 passing rates of Edison students dropped on the reading, math, and science R.C.T.s. Thus, Edison students did not meet the program objective in those areas.

As shown in Table 9, Jamaica High School students exceeded program objectives in science and math during the first year of the program. By the end of the second program year, Jamaica students showed a mean increase of 6.0 N.C.E. units as measured by the D.R.P. test. However, passing rates dropped considerably on the R.C.T.s. Thus, Jamaica students did not meet program objectives for 1992-93.

STUDENT ATTENDANCE

Another objective of the Tri-School Confederation program was to motivate students to attend school, as measured by an average daily attendance higher each program year than the previous year. OREA obtained aggregate attendance data from the Division of High Schools' Office of Data Acquisition, Tabulation, and Analysis (DATA.) According to these data, and as Table 10 indicates, both Hillcrest and Edison high schools reached their attendance goal during 1991-92, the first program year. However, aggregate attendance for all three schools declined during 1992-93, the second program year as did average attendance for all high schools combined. Thus, the Tri-School Confederation schools did not reach their attendance objective for the 1992-93 program year.

Table 9

Summary of Baseline, First-Year and Second-Year Achievement Outcomes for Jamaica High School

Measures	Baseline 1990-91 N	% Passed[a]	First Year 1991-92 N	% Passed[a]	Second Year 1992-93 N	% Passed[a]
R.C.T.						
Reading	563	92.2	576	88.0	579	83.9
Writing	534	95.7	465	86.7	548	81.3
Math	560	73.6	501	82.2	818	64.6
Science	650	58.8	597	62.8	487	54.2

D.R.P.[b] Test	Tested	Mean Score	S.D.	Tested	Mean Score	S.D.	Tested	Mean Score	S.D.
Reading	927	55.5	17.3	875	52.6	16.5	820	61.5	13.0

[a]Percent who passed of those who took the Regents Competency Test.

[b]Degrees of Reading Power test scores are presented in N.C.E. units. N.C.E.s are normal curve equivalent scores. These scores are similar to percentile ranks, but are based on an equal-interval scale ranging from 1 to 99, with a mean of 50 and a standard deviation of 21. A gain in N.C.E. score from year to year indicates that a student's performance is better than what would be expected by normal growth and chance.

- During the first program year, Jamaica High School students exceeded program objectives for improved passing rates in science and especially math, but fell below expectations in reading and writing.
- During the second program year, Jamaica students showed a mean increase of 6.0 in N.C.E. units as measured by the D.R.P. test. However, passing rates of Jamaica students fell considerably on the R.C.T.s.

Table 10

Baseline, First-Year and Second-Year Aggregate Attendance Data[a]
Overall and by School

School/ Overall	Aggregate Attendance 1990-91 Baseline N	%	1991-92 First Year N	%	Baseline - First Year Change	1992-93 Second Year N	%	First Year - Second Year Change
Hillcrest	3,102	82.6	3,106	83.0	+0.4	2,988	81.0	-2.0
Edison	1,916	85.4	1,995	87.7	+2.3	2,005	85.9	-1.8
Jamaica	2,468	85.7	2,450	84.5	-1.2	2,318	83.4	-1.1
Queens High Schools	57,680	85.1	60,190	83.0	-2.1	59,117	84.3	+1.3
All High Schools	252,326	79.6	263,832	79.7	+0.1	260,890	78.3	-1.3

[a]Aggregate attendance data includes long-term absentees (L.T.A.s.)

- Both Hillcrest and Edison High Schools met the attendance objective during the first year of the program. However, the aggregate attendance of all three schools dropped during the second year.

VI. CONCLUSIONS AND RECOMMENDATIONS

The Tri-School Confederation was made up of three Queens schools, Hillcrest, Jamaica, and Thomas A. Edison High Schools. The schools, within five blocks of each other, were funded in 1991 by the Magnet Schools Assistance Program to share their resources and expand their respective magnet programs. The goals of the program included improving students' academic achievement and vocational skills, and attracting non-minority students back to public education. The 1992-93 school year saw some progress but little change.

The programs were implemented in the 1991-92 school year and included new courses, particularly lab courses with corresponding written curriculum, that emphasized higher level thinking skills. The much anticipated new laboratories had not been completed in time for the fall 1991 term because the schools had to wait for the necessary equipment. Unfortunately, because of plumbing and contractor problems, Hillcrest's DNA lab and Edison's pharmacology lab were still not operational during the 1992-93 year. Classes were held in chemistry or other laboratories. The reading and writing lab at Jamaica High School was fully equipped by the fall 1992 term. However, teachers had to be trained on the computers, and students did not have access until the spring 1993 term. There were also problems with installing sufficient power for use of computers in Jamaica's library.

By the end of the first program year, students in all three schools improved their R.C.T. passing rates in math and science,

which bodes well for a new lab curriculum emphasizing these skills. Students did not, however, do well in reading and writing. Data for the second program year showed improvements in reading as measured by the Degrees of Reading Power test, and on the writing R.C.T. Student R.C.T. passing rates decreased in reading, math and science and thus did not meet the program objective for 1992-93.

Attendance rates at both Edison and Hillcrest had improved during the first program year. However, by the end of the 1992-93 school year, aggregate attendance at all three schools had gone down. Thus the program did not meet the attendance objective.

In an attempt to reduce minority group isolation, efforts were made to recruit students from among white populations. Despite these efforts, the evaluation objective of an eight percent decrease in minority enrollment over a two-year period was not met. Hillcrest and Jamaica decreased their minority population by less than one percent, and Edison actually had a two percent increase in minority enrollment.

If ethnic trends of entering ninth graders are examined, however, a different pattern emerges. By the second program year, there was an increase of more than four percent of incoming white ninth graders at Jamaica and Edison High Schools. Hillcrest High School had an increase of approximately one percent in non-minority ninth grade students. Also, with plans

to begin its educational-option law program in September 1993, Jamaica High School began to recruit outside its zoned area.

Student ratings of various program aspects were, for the most part, similar to the previous year's ratings. Limited access to courses at other schools was frustrating for students. Also, some labs and libraries were not fully operational, and course offerings did not reach full potential due to scheduling problems. These factors once again affected ratings. Generally, students rated "student activities offered" highest, and "opportunity for individual instruction" lowest in all three schools.

Students gave their school highest marks on improvement to the teachers and guidance counselors for talking to them about program options. But they expressed disappointment in the second term with the access to labs and lab equipment, writing opportunities, and chances for individual instruction. Safety was still a concern but students were less anxious about it than they were last year.

Suggestions for change were consistent among students from all three schools. Students would like teachers to be more involved, and hoped for more hands-on experience in the classroom. While students wanted to feel safer in school, they did not like the more stringent safety measures instituted. Some students wanted better facilities, i.e., cleaner bathrooms and more secure lockers. Overall, the vast majority of students would recommend their schools to other students.

A major component of the Tri-School concept was an expansion of course offerings through shared resources. This was achieved by integrating courses. For example, Jamaica offered a medical ethics course, and Edison had a pharmaceutical course to interest medical students at Hillcrest. Hillcrest offered a first responder course which was of interest to students in Edison's emergency vehicle maintenance program. While there was an increase in enrollment in these courses during the second program year, the number of participating students was still relatively low. While students indicated on the attitudinal survey that taking courses at other schools in the Tri-School program was highly attractive to them, staff still had to work out on-going problems with lack of space and complicated student scheduling. During the school year, bi-monthly brainstorming meetings with school principals were attended by up to 50 staff members. Unfortunately, these meetings ceased when the schools learned their grant would not be renewed by the Magnet Schools Assistance Program. If these schools are to continue sharing educational and physical resources, a full-time program director is needed.

Based on the findings of this evaluation, OREA makes the following recommendations to program planners:

- continue and intensify efforts, using students and site visits to show off the new programs and facilities, to recruit more white students for all programs;
- focus more attention on students' reading and writing opportunities in order to improve these skills and to encourage higher levels of thinking and expression;

- consider intensifying efforts to give students more individual instruction time, perhaps through peer tutoring or mentoring programs;

- develop more ways students, especially in the lower grades, can take courses in their program of interest. This might include more interschool offerings, and a transportation system between schools; and

- appoint a program director to ensure the continuance and growth of the Tri-School concept of shared resources.